

S.N.: 10/770,880
Art Unit: 2616

AMENDMENTS TO THE DRAWINGS:

The attached sheet of drawings includes changes to Figures 5 and 6, and replaces the original sheets of drawings. In these figures, the labels for 5A and 5B have been changed to 6A and 6B, as per the originally-filed informal figures and the descriptions on page 11 of the application.

Annotated sheets are not required per MPEP §608.02(p).

Attachment: Replacement Sheets 5/6 and 6/6

REMARKS:

AMENDMENTS TO THE APPLICATION:

Claims 17-30 are canceled without prejudice or disclaimer. The applicant reserves the right to add similar or corresponding claims at a later date or in one or more continuation applications.

Claims 1-3, 5-11, 16, 31-33, 36-38, 40 and 42 are amended herewith. These amendments are made for purposes of clarity and are not made in response to the objections or rejections in the instant office action.

With regards to amended independent claim 31, it is briefly noted that one of ordinary skill in the art at the time the invention was made would appreciate that a mobile station has a transceiver that enables the mobile station to communicate with other devices, such as mobile network nodes (MNNs) and/or an access point (AP) of an access network (AN).

Claims 43-57 are newly added and comprise a set of program storage device claims. Support for claim 43 can be found at least at page 7, lines 16-23, page 15, lines 5-15 (original filed claim 16), and page 17, lines 5-13 (original filed claim 31). It is noted that claim 43 recites operations similar to those of amended claim 1. Similarly, dependent claims 45-56 recite operations similar to those of amended claims 2 and 4-15.

Claims 58 and 59 are also newly added and include elements corresponding to ones previously recited in respective independent claims 1 and 16. It is noted that these claims are similar to original filed dependent claim 32 (which depends from independent claim 31).

Replacement sheets for Figures 5 and 6 are submitted herewith. The replacement sheets correct an error that was inadvertently introduced in the submission of the formal figures. Namely, the references for 5A and 5B have been changed to 6A and 6B, respectively, as was initially

indicated in the informal figures filed with this application and in accordance with the descriptions of Figures 5 and 6 on page 11 of the instant application.

CLAIM OBJECTIONS:

The Examiner objected to claim 16 due to informalities. Although not made in response to this objection, it is believed that the amendments to claim 16 should address the Examiner's concerns.

The Examiner also objected to claims 15 and 30, asserting that "the acronym "AN" needs to be clarified." Original filed claims 1 and 16, from which claims 15 and 30 depend, respectively, both include: "an access network (AN)." Thus, the term "AN" is clearly defined in the respective independent claims and no further clarification is needed in claim 15 or 30.

35 U.S.C. §112 CLAIM REJECTIONS:

The Examiner rejected claims 1, 4, 5, 6 and 7 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicant regards as the invention. On page 2 of the instant office action, the Examiner further explained: "the language is not clear as to which device is performing this method."

This nature of this rejection is not understood. There is no requirement that a method claim explicitly identify the device that is performing the steps of the method. In fact, a method claim may be seen to read on different devices based on the steps that are being performed. The 35 U.S.C. §112, second paragraph rejection of claims 1, 4, 5, 6 and 7 is hereby traversed. Should the Examiner maintain this rejection, it is respectfully requested that the Examiner provide further support with specific reference to sections of the MPEP.

35 U.S.C. §103 CLAIM REJECTIONS:

(A) The Examiner rejected claims 1-4, 11-14, 16-19, 26-32, and 39-41 under 35 U.S.C. §103(a) as being unpatentable over Thubert et al. (U.S. Patent Application Publication No. 2004/0057440) in view of Janneteau et al. (European Patent Application Publication No. 1376973 A1) and further in view of Sreemanthula et al. (U.S. Patent Application Publication No. 2005/0169220; i.e., the instant application). See pages 3-21 of the instant office action.

(B) The Examiner rejected claims 5, 20 and 33 under 35 U.S.C. §103(a) as being unpatentable over Thubert et al., Janneteau et al. and Sreemanthula et al., and further in view of Lee et al. ("Route Optimization for Mobile Nodes in Mobile Network based on Prefix Delegation", IEEE, 2003). See pages 22-25 of the instant office action.

(C) The Examiner rejected claims 6, 7, 21, 22, 34 and 35 under 35 U.S.C. §103(a) as being unpatentable over Thubert et al., Janneteau et al. and Sreemanthula et al., and further in view of Perkins et al. ("Mobility Support in IPv6", to appear in Proceedings of the Second Annual international Conference on Mobile Computing and Networking (MobiCom '96), 1996). See pages 25-31 of the instant office action.

(D) The Examiner rejected claims 8, 23 and 36 under 35 U.S.C. §103(a) as being unpatentable over Thubert et al., Janneteau et al. and Sreemanthula et al., and further in view of Chiou et al. (U.S. Patent No. 6,473,413). See pages 31-34 of the instant office action.

(E) The Examiner rejected claims 9, 10, 24, 25, 37 and 38 under 35 U.S.C. §103(a) as being unpatentable over Thubert et al., Janneteau et al., Sreemanthula et al. and Lee et al., and further in view of Chiou et al. See pages 34-41 of the instant office action.

These rejections are respectfully disagreed with and are traversed below.

ARGUMENTS FOR THE §103 REJECTIONS

In the Abstract, Janneteau et al. state:

A method of transmitting a data packet on a communication path from a first communication node (CN1, CN2) to a second communication node (LFN1, LFN2) in a mobile network (115). The method includes receiving a route message (1010, 1020) from the second communication node (LFN1, LFN2), wherein the route message (1010, 1020) includes a list of intermediate addresses ({MR1, COA}, {MR1-COA, MR2-COA}) between the first communication node (CN1, CN2) and the second communication node (LFN1, LFN2). A preferred communication path is generated in response to the list of intermediate addresses; and at least one data packet is transmitted from the first communication node (CFN1, CFN2) to the second communication node (LFN1, LFN2) via this preferred communication path.

Janneteau et al. describe a messaging scheme for advertising changes in care-of routing (i.e., changes in a care-of routing chain). Note that Janneteau et al. are primarily concerned with route optimization and, more specifically, with route optimization within nested mobility. See page 5, col. 8, para. [0038] and page 7, col. 11, para. [0058].

Janneteau et al. propose to make MNNs aware of the mobility of the Mobile Networks (or Mobile Routers) that they are attached to. See page 7, col. 12, para. [0064]. A Mobile Router (MR1) will send a "Care-of Route Advertisement" message into the Mobile Network it serves in order to announce that it has moved to a new point of attachment. This message is addressed to all the nodes behind it (LFNs, LMNs, VMNs) and contains the Care-of addresses of all the Mobile Routers above MR1 in the hierarchy of aggregated Mobile Networks. The list of above mobile routers' care-of addresses is preferably ordered and dynamically constructed through all of the Care-of Route Advertisement messages sent at each level of the hierarchy. See page 7, col. 12, para. [0065]. A more detailed description of the use of the Care-of Advertisement message (CoR_Advt) can be found on page 8, col. 13-14, para. [0072]-[0077].

With regard to claim 1, the Examiner asserted that Janneteau et al. discloses "making a request to obtain a plurality of link addresses from a link address manager" and "allocating individual ones

of the plurality of link addresses to individual ones of network nodes of the MONET," as recited in unamended claim 1.

The Examiner identifies page 9, col. 15, para. [0082] of Janneteau et al. as allegedly disclosing this feature of unamended claim 1. At page 9, col. 15, para. [0082], Janneteau et al. describe the Care-of Route Solicitation (CoR_Sol) message 2400 shown in FIG. 24, stating that "[i]t includes a single IP header 2425 that includes an IP source address 2410 for a host and an IP destination address 2420 indicating the all-routers IP multicast address."

In para. [0077] (page 8, col. 14), Janneteau et al. state:

Note that when a mobile router (MR) changes its location, it should send a CoR_Sol [Care-of Route Solicitation message], in order to receive a CoR_Advt message in return. The MR is then able to compute its new Care-of Route (CoR). This CoR will be made of the ordered list of addresses received in the CoR_Advt message [] to which MR's new Care-of address is appended.

Thus, the CoR_Sol message is a solicitation to receive CoR_Advt messages in order to compute a new CoR.

There is no disclosure or suggestion by Janneteau et al. of "making a request to obtain a plurality of link addresses from a link address manager," as recited in unamended claim 1. There is no disclosure or suggestion of using a link address manager. Janneteau et al. obtain the addresses from a number of different devices along the Care-of Route for the soliciting device. Furthermore, the obtained addresses are used to compute a new Care-of Route for the soliciting device. This is in contrast to original claim 1 of the instant application, which recited "allocating individual ones of the plurality of link addresses to individual ones of network nodes of the MONET." Janneteau et al. do not disclose or suggest any such allocation, and particularly not in conjunction with any request.

It is noted that amended claim 1 recites: "requesting, by a gateway mobile terminal of a mobile network (MONET), from a link address manager of an access network (AN) information relating

to a plurality of link addresses; receiving a response to the request; and allocating, based on the response, individual ones of assigned link addresses to individual ones of network nodes of the MONET." It is submitted that Janneteau et al. do not disclose or suggest at least these elements of amended claim 1.

The features recited in claim 1 are not disclosed or suggested in the cited art. Thubert et al. in view of Janneteau et al. and further in view of Sreemanthula et al. certainly does not render claim 1 obvious. Therefore, claim 1 is patentable and should be allowed.

Though dependent claims 2-15 and 58 contain their own allowable subject matter, these claims should at least be allowable due to their dependence from allowable claim 1. However, to expedite prosecution at this time, no further comments will be made except as noted below.

Independent claims 16, 31 and 43 recite features similar to those of independent claim 1. For the reasons stated above with respect to claim 1, it is submitted that independent claims 16, 31 and 43 are not rendered obvious by Thubert et al. in view of Janneteau et al. and further in view of Sreemanthula et al. Claims 16, 31 and 43 are patentable and should be allowed.

Though dependent claims 32-42, 44-57 and 59 contain their own allowable subject matter, these claims should at least be allowable due to their dependence from allowable claims 16, 31 and 43. However, to expedite prosecution at this time, no further comments will be made except as noted below.

Further with regard to claim 1, the Examiner argued that Thubert et al. discloses "performing a neighbor discovery procedure with the AR to send at least one neighbor advertisement to declare the allocated individual ones of the assigned plurality of link addresses," as recited in unamended claim 1. It is noted that dependent claims 32, 58 and 59 recite subject matter similar to this element. As such, the alleged application of Thubert et al. to this element will briefly be considered.

On page 5 of the instant office action, the Examiner cited the Home Agent Discovery Request message sent by the mobile Ipv6 discovery resource 43, described by Thubert et al. at para. [0026], as allegedly disclosing the above-noted element of unamended claim 1. However, in that same paragraph Thubert et al. state: "the discovery resource 43 is configured to discovering each home agent 18 associated with a corresponding subnet prefix." That is, the message, indeed the disclosure of Thubert et al., is directed towards discovery of and communication with home agents. There is no disclosure or suggestion by Thubert et al. concerning a "neighbor discover procedure," "performing a neighbor discovery procedure with [an access router]," sending "at least one neighbor advertisement" nor doing so "to declare [] allocated individual ones of [] assigned [] link addresses." Thus, Thubert et al. cannot be seen to disclose or suggest "performing a neighbor discovery procedure with the AR to send at least one neighbor advertisement to declare the allocated individual ones of the assigned plurality of link addresses," as recited in unamended claim 1. It is thus also submitted that Thubert et al. cannot be seen to render obvious corresponding elements as recited in currently-pending claims 32, 58 and 59.

With regard to claim 2, it is submitted that a "neighbor advertisement" is not equivalent to a "Binding Update message," particularly since the functions of the two are considerably different. The Binding Update message updates the care-of routing for the mobile device, while the neighbor advertisement declares the allocated link addresses to neighboring nodes. The proposed combination cannot be seen to render obvious the subject matter recited in dependent claim 2. It is noted that newly-added dependent claim 45 recites similar subject matter.

With regard to claim 4, the Examiner rejected it on page 7 of the instant office action, stating: "Janneteau et al. discloses having a care-of route solicitation message that is an ICMPv6 router solicitation message which can be sent by a MNN (mobile network node)... this message solicits all the IP multicast address ("link layer addresses") belonging to the router." It is respectfully submitted that Janneteau et al. contains no such disclosure and that the messaging described by Janneteau et al. does not function in the manner described by the Examiner. The Janneteau solicitation message solicits advertisements of the addresses of devices on the care-of route for the soliciting device. The soliciting device subsequently multicasts the obtained information (an

ordered list of addresses comprising the care-of route) to the devices beneath it (i.e., the MNNs). At no time do Janneteau et al. disclose that the soliciting device allocates anything to the MNNs. If the undersigned agent's understanding of Janneteau et al. is in error, it is respectfully requested that the Examiner cite specific portions of Janneteau et al. that disclose the alleged functionality.

With regard to the rejection of claims 15 and 30, described by the Examiner on pages 16-17 of the instant office action, it is respectfully submitted that access routers are not synonymous with link address managers. An access router enables access to the access network. In contrast, a link address manager manages link addresses and oversees assignment of link addresses to devices that connect with the access network. Clearly, these two components are not identical. As such, it is submitted that Thubert et al. does not disclose or suggest use of the "link address manager" recited in claims 15 and 30.

Furthermore, and with regard to the same claims, the Examiner "infers" that the access router has a list of mobile node addresses in order to grant access to the network. Regardless of the propriety of said inference, which is disputed, the alleged functionality bears little relation to that of the link address manager recited in the claims. It is submitted that the Examiner's inference is not only improper and without foundation, but also that it is irrelevant to the recited subject matter.

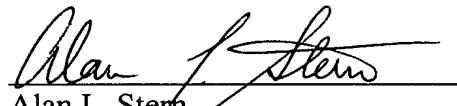
With regard to claims 11 and 39, on page 20 the Examiner "infers" that the care-of addresses of Thubert et al. are able to be tracked as a group. Thubert et al. disclose no such functionality and without further supporting evidence, the Examiner's "inference" is improper. It is submitted that Thubert et al., nor any other of the references cited in the rejection of these claims, discloses or suggests that a "set of LLAs are tracked as a group," as recited in claim 11, for example. It is noted that newly-added claim 48 recites similar subject matter.

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CONCLUSION

The Examiner is respectfully requested to reconsider and remove the rejections of claims 1-16 and 31-42 under 35 U.S.C. §103(a) and to allow all of the pending claims as now presented for examination. For all of the foregoing reasons, it is respectfully submitted that all of the claims now present in the application are clearly novel and patentable over the prior art of record. Should any unresolved issue remain, the Examiner is invited to call Applicants' agent at the telephone number indicated below.

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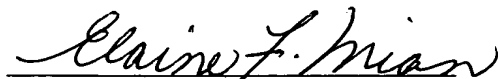
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